

8. (new) The process for preparing the optically active quinoline carboxylic acid derivative of claim 7, wherein X is a fluorine atom.

9. (new) The process for preparing the optically active quinoline carboxylic acid derivative of claim 7, wherein X is a chlorine atom.

REMARKS

This divisional application is filed to claim subject matter originally presented in the parent application and cancelled therein without prejudice in our response to the restriction requirement on December 9, 2002. The amendments are made to correct typographical errors, incorporate the amendments made in the parent application and insert a claim of priority based on a prior U.S. application and foreign applications into the specification. It is respectfully submitted that no new matter has been entered and that the present application is in all respects complete and in condition for favorable consideration.

Attached hereto is a marked-up version of the changes made to the claims by the preliminary amendment. The attached appendix is captioned "**Version with markings to show changes made.**"

If the Examiner has any questions regarding the amendment presented herein, it is requested that the Examiner contact the undersigned at the telephone number shown below.

An early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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MUSERLIAN, LUCAS & MERCANTI, LLP

By:


Sapna Gadhia

UNITED STATES PATENT & TRADEMARK OFFICE

Examiner: Unknown Art Unit: Unknown

Re: Application of: YOON, Sung, June, et. al.

Serial No.: To be assigned

Filed: herewith

For: **OPTICALLY ACTIVE QUINOLINE CARBOXYLIC
ACID DERIVATIVES HAVING 7-PYRROLIDINE
SUBSTITUTES CAUSING OPTICAL ACTIVITY
AND A PROCESS FOR PREPARING THEREOF**

APPENDIX I
VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Page 1, before line 1, please amend the title as follows:

OPTICALLY ACTIVE QUINOLINE CARBOXYLIC ACID DERIVATIVES ~~HAVING~~ WITH
7-PYRROLIDINE SUBSTITUTES ~~SUBSTITUENTS~~ CAUSING OPTICAL ACTIVITY AND
A PROCESS FOR ~~PREPARING~~ THE PREPARATION THEREOF

Page 1, before line 1, please insert the following paragraph:

--This patent application is a divisional of U.S. Patent Application Serial No. 09/979,644, filed on November 16, 2001, which claims a benefit of priority from Korean Patent Application No. 1999/18158 filed May 20, 1999 and Korean Patent Application No. 2000/24657 filed May 9, 2000, through PCT Application Serial No. PCT/KR00/00487, the contents of each of which are incorporated herein by reference.--.

IN THE ABSTRACT:

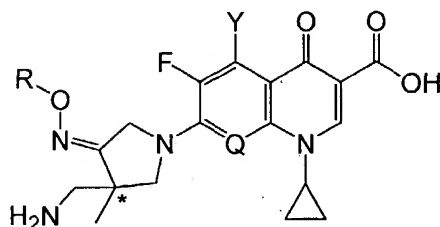
Please replace the abstract with the abstract attached hereto on a separate piece of paper.

IN THE CLAIMS:

Please amend claim 1 as follows:

1. (Amended) An optically active quinoline carboxylic acid ~~derivatives~~ derivative represented by the following formula 1, containing optical activity-causing 4-aminomethyl-4-methyl-3-(Z)-alkoxyiminopyrrolidine substituents at the 7-position of the quinolone nuclei, ~~their or its~~ pharmaceutically acceptable salts, ~~and their solvates.~~ salt,

Formula 1



~~Wherein~~ wherein,

Q is ~~C-H, C-F, C-Cl~~ or N;

Y is H or NH₂;

R is a straight or branched alkyl group of C₁-C₄, an allyl group or a benzyl group, and

* represents optically pure chiral carbon atom.

Please amend claim 2 as follows:

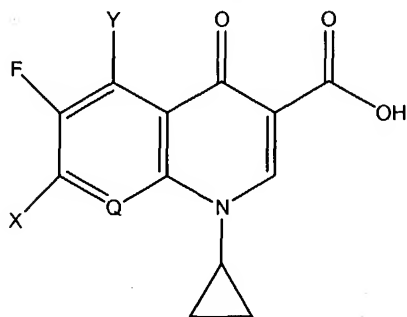
2. (amended) The optically active quinoline carboxylic acid ~~derivatives~~ derivative, ~~their or its~~ pharmaceutically acceptable salt ~~salts, and their solvates~~ according to claim 1, wherein Q is ~~C-H, C-F~~ or N; Y is H or NH₂; and R is an alkyl group of C₁-C₂ or an allyl group.

Please cancel claims 3-6.

Please add new claims 7-9:

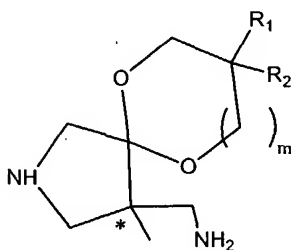
7. (new) A process for preparing an optically active quinoline carboxylic acid derivative of claim 1 comprises the steps:

a) condensing the quinolone nuclei-containing compound of formula 3



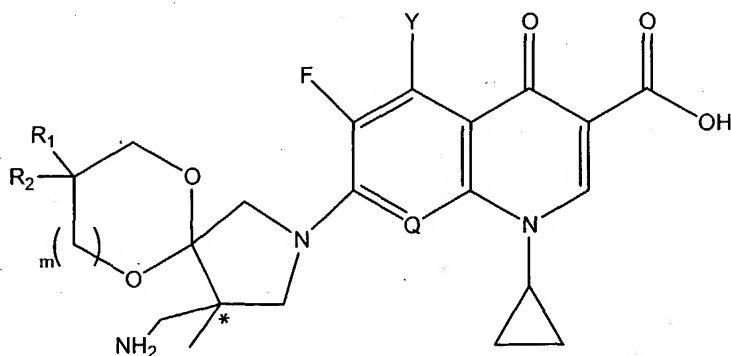
3

with the ketal compound of formula 2a



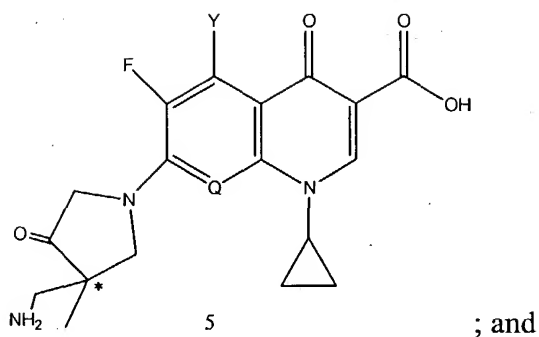
2a

in the presence of an acid acceptor to give the optically active quinoline carboxylic acid derivative of formula 4;



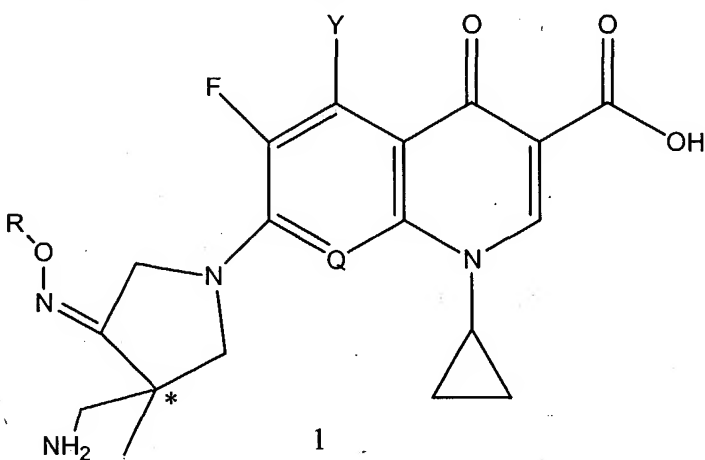
4

b) deketalizing the optically active quinoline carboxylic acid derivative of formula 4 to give the pyrrolidinone compound of formula 5



; and

- c) reacting the pyrrolidinone compound of formula 5 with an alkoxyamine in the presence of a base to obtain the desired compound of formula 1



wherein,

Q is N;

Y is H or NH₂;

R is a straight or branched alkyl group of C₁-C₄, an allyl group or a benzyl group,

* represents optically pure chiral carbon atom,

X is a halogen atom,

R₁ and R₂ are H or methyl,

R₁ and R₂ are the same; and

m is 0 or 1.

8. (new) The process for preparing the optically active quinoline carboxylic acid derivative of claim 7, wherein X is a fluorine atom.

9. (new) The process for preparing the optically active quinoline carboxylic acid derivative of claim 7, wherein X is a chlorine atom.

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By:

Michael N. Mercanti

